

Remarks

Specification

In the 15 June 2004 office action, the Examiner objects to the 16 March 2004 amendment to the specification entered by the Applicant because it introduces new matter into the specification. The Examiner cites changes to one paragraph as the basis for this objection. The Applicant traverses this objection by noting that no new subject matter was introduced by the 16 March 2004 amendment. More specifically, the modified paragraph objected to by the examiner is shown below along with a point by point rebuttal of the assertion that new matter was introduced.

The innovative system has the added benefit of providing a large amount of detailed information to the enterprise and central exchange users concerning both tangible and intangible elements of value. Because intangible elements are by definition not tangible, they can not be measured directly. They must instead be measured by the impact they have on their surrounding environment. There are analogies in the physical world. For example, electricity is an "intangible" that is measured by the impact it has on the surrounding environment. Specifically, the strength of the magnetic field generated by the flow of electricity through a conductor is used to determine the amount of electricity that is being consumed. The system of the present invention measures intangible elements of value by identifying the attributes that, like the magnetic field, reflect the strength of the element in driving components of value (revenue, expense and change in capital)), real options① and the market prices for company equity and are easy to measure. Once the attributes related to the ~~strength~~impact② of each element are identified, they can be summarized into a single expression (a composite variable or vector). The vectors for all elements are then evaluated using a series of models ③ to determine their~~the~~ relative contribution of each element to driving each of the components of value~~and market value~~.④ The system of the present invention then calculates the product of the relative contribution and the forecast longevity of each element to determine~~element contributions and the relative contribution to each value~~ of the components of value. The contributions to each component of value are then added together, real options and market value⑤ to determine the value~~net value~~ impact⑥ of each element (see Table 5).

| Change | Support in original specification |
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| ① Real options | See Table 2 – numerous other references can be provided. |
| ② Impact | <p>1) The concept of impact is introduced on line 4 in an unmodified portion of the modified paragraph</p> <p>2) Impact is equated with “strength in driving” in lines 5 through 10 in an unmodified portion of the modified paragraph</p> <p>3) Impact was substituted for strength which given the context implied “strength in driving”.</p> <p>In short, the concept of impact was clearly included in the original specification and the substitution of impact for strength did not introduce new subject matter.</p> |
| ③ Series of models | FIG. 6A and FIG. 6B clearly shows a series of models being used to process data, this processing is described on pages 53 through 64 in the original specification. |
| ④ Market value | Line 12 in an unmodified portion of the modified paragraph mentions the market price for company equity. The relationship between the market price of company equity and market value is defined in Table 3 of the specification. |
| ⑤ Real options and market value | See ① and ④ |
| ⑥ Net value impact | <p>1) Impact is equated with “strength in driving” in lines 5 through 10 in an unmodified portion of the modified paragraph</p> <p>2) The definition given net value impact is equivalent to the definition given in lines 8 through 11 regarding “strength in driving” that the Examiner did not object to</p> <p>3) Value impact was mentioned four times in the original specification</p> |

In short, the amendment to the paragraph did not introduce new matter. It should also be noted that the cross referenced applications added to the specification make the objection moot.

35 U.S.C. § 112 Rejection of Claims

In the 15 June 2004 office action, Claims 98-106 are rejected based on the Examiners opinion that the subject matter was not described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention. The Examiner specifically cites claims 98 and 99 as being vague. The Applicant traverses this objection in three ways. First, by noting that the language in claims 98 and 99 is patterned after the statutory requirements for business method patents. The language in the claims is therefore only vague to the extent the statute is vague. Second, by noting that the subject matter was described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention. Third, by noting that the office action

does not to provide any evidence that the claims were not described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention.. It is well established that substantial evidence is required to support decisions made by the PTO (In re Gartside 203F.3d 1305, 53 USPQ2d 1769 (Fed Circuit 2000)). Furthermore, the rejection is moot because the claims have been cancelled.

In the 15 June 2004 office action, Claims 122 through 132 are rejected based on the Examiners opinion that the subject matter was not described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention. The Applicant traverses this objection in two ways. First, by noting that the subject matter was described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention. Second, by noting that the office action does not to provide any evidence that the claims were not described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention.. It is well established that substantial evidence is required to support decisions made by the PTO (In re Gartside 203F.3d 1305, 53 USPQ2d 1769 (Fed Circuit 2000)). Furthermore, the rejection is moot because the claims have been cancelled.

In the 15 June 2004 office action, Claims 107 through 121 are rejected based on the Examiners opinion that the subject matter was not described in the specification in such as way as to enable one skilled in the art to which it pertains or with which it is most nearly connected to make and/or use the invention. The Examiner specifically objects to the use of the term "common xml". The Applicant traverses this rejection by noting that claims 107 through 121 do not utilize the term "common xml".

In the 15 June 2004 office action, Claims 92-132 are rejected based on the Examiners opinion that the claims are indefinite for failing to particularly point out and distinctly claim the invention. The Examiners specific concerns are:

1. it is not clear how data is being used,
2. it is not clear what a "variety of systems" includes, and
3. that "optimal mix" lacks the requisite antecedent basis.

The Applicant traverses all § 112 rejections for indefiniteness by noting that the office action does not establish a prima facie case of indefiniteness. It is well established that "in rejecting a claim under 35 USC 112, it is incumbent on the examiner to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims" (Ex parte Wu, 10 USPQ 2d 2031, 2033 (Board of Patent Appeals and Interference 1989)). The Examiner has not presented any evidence to support his assertion and has therefore failed to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims.

Furthermore, the Applicant traverses each specific concern with additional arguments. The Applicant traverses the first concern by noting that it is well established that substantial evidence is required to support decisions made by the PTO (In re Gartside 203F.3d 1305, 53 USPQ2d 1769 (Fed Circuit 2000)). The Applicant traverses the second concern by noting that the term "variety of systems" is not used in the claims. The Applicant traverses the third concern that the "optimal mix of risk reduction products and risk reduction activities" which is referenced in the claims is clearly defined in both the original and revised specification. This issue was raised in the first office action and was fully addressed at that time. As described in the specification, the invention uses a linear program to complete calculations to identify the optimal mix of risk reduction products and risk reduction activities. It is well known that said linear program optimizations comprise a maximization or a minimization of the objective function of said linear program. Consistent with this well known fact, the instant application notes that the optimization calculation can be used reducing risk (minimization) or enhancing value (maximization). Because this fact is well known, no further description was/is required.

35 U.S.C. § 103 Rejection of Claims

In the 15 June 2004 office action, claims 92 – 106 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of U.S. Patent 6,078,901 (hereinafter, Ching) and U.S. Patent 6,263,314 (hereinafter, Donner). The Applicant traverses all § 103 rejections for claims 92 - 106 by noting that the 15 June 2004 office action fails to establish the prima facie case of obviousness required to sustain § 103 rejections. A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP § 2143.01 provides:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

The Applicant will detail at least one way in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for claims each of the claims 92 – 106 while noting that there are several other ways in which the § 103 rejections can be traversed.

One of the ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for claim 92 is that it does not include references that can be combined or modified to describe the claim as detailed below.

| Claim 92 | Ching |
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| A data processing system for identifying the value and risk associated with one or more tangible elements of value or intangible elements of value of a business, comprising: | An infinite spreadsheet for use in determining the price of a single commodity. |
| (a) processing means for processing data; | Cited reference (Column 23, L 21-30) It seems that almost anything can contribute to the change in price. The only safe way to insure the correct determination of price is to take everything into consideration. In the deterministic method, an investment decision is made by taking into consideration all the future expected consequences as the result of the decision. The accounting process of all the future consequences must be quantitative and |

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| | <p>must not miss anything or count anything more than once.</p> <p>Cited reference (Column 24, L 19-31) It is another object of the present invention to introduce the design specifications of the device and its novel process of operation which require that all the prices, including all the resale prices from now to infinity, be simultaneously determined in the single-commodity deterministic method and that the quantities for all the deterministic prices are to be summed to form the supply and demand model in the determination of the prices of all the functionally similar commodities with a uniform price.</p> <p>Other objects and advantages of the present invention will become apparent when the device is considered in conjunction with the accompanying drawing wherein:</p> |
| (b) storage means for storing data; | <p>Cited reference (Donner C7, L30 – C8, L7) Finally, intellectual property which also includes copyrighted work could also be considered in a similar manner. For example, computer software related intellectual property might include both patents on the computer system as well as copyrights on the software itself.</p> <p>Database access and collection device 4 may be any standard device which may interface with the various other databases using, for example, software which is able to mimic or compatible with the software systems of the various databases. Accordingly, database access and collection device 4 may include, for example, the data collection system in U.S. Pat. No 3,810,101 or the information retrieval system in U.S. Pat. No. 4,064,490, incorporated herein by reference. Additionally, database access and collection device 4 may also include, for example, the machine translation system in U.S. Pat. No. 4,814,988 or the computer method for automatic extraction of commonly specified information from business correspondence in U.S. Pat. No. 4,965,763, incorporated herein by reference.</p> |

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| | <p>The collected information, including, for example, the first and second types of patent information discussed above, are then transmitted to data processor 6 to process the collected data. The data which does not require processing in data processor 6 may be simply passed to indicator weighing device 8. Data processor 6 would then process the collected data as follows: For each of the above indicators, data processor 6 would assign an importance factor, based upon predetermined data stored in empirical database 12, for each of the indicators indicating the importance of the collected data with respect to each indicator. Data processor 6 may include any standard data processor such as the 386 data processor manufactured by various companies including Intel and may include the various functions of the artificial intelligence system in U.S. Pat. No. 4,670,848, incorporated herein by reference.</p> <p>Empirical database 12 may be a single database storing all the required empirical data, or empirical database 12 may be comprised of several smaller databases each storing different required data used by the intellectual property audit system of the present invention. Empirical database may be any standard database and may include, for example, the data storage and processing apparatus in U.S. Pat. No. 3,911,403, incorporated herein by reference.</p> <p>Cited reference (Donner C10,L53-C11,L35) FIG. 7 is an illustration of main central processing unit 18 for implementing the computer processing in accordance with one embodiment of the present invention. In FIG. 7, computer system 218 includes central processing unit 234 having disk drives 236 and 238. Disk drive indications 236 and 238 are merely symbolic of the number of disk drives which might be accommodated in this computer system. Typically, these would include a floppy disk drive such as 236, a hard disk drive (not shown either internally or externally) and a CD ROM indicated by slot 238. The number</p> |
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| | <p>and type of drives varies, typically with different computer configurations. The computer includes display 240 upon which information is displayed. A keyboard 242 and a mouse 244 are typically also available as input devices via a standard interface.</p> <p>FIG. 8 is a block diagram of the internal hardware of the computer 218 illustrated in FIG. 7. As illustrated in FIG. 8, data bus 248 serves as the main information highway interconnecting the other components of the computer system. Central processing units (CPU) 250 is the central processing unit of the system performing calculations and logic operations required to execute a program. Read-only memory 252 and random access memory 254 constitute the main memory of the computer, and may be used to store the simulation data.</p> <p>Disk controller 256 interfaces one or more disk drives to the system bus 248. These disk drives may be floppy disk drives such as 262, internal or external hard drives such as 260, or CD ROM or DVD (digital video disks) drives such as 258. A display interface 264 interfaces with display 240 and permits information from the bus 248 to be displayed on the display 240. Communications with the external devices can occur on communications port 266.</p> <p>FIG. 9 is an illustration of an exemplary memory medium which can be used with disk drives such as 262 in FIG. 8 or 236 in FIG. 7. Typically, memory media such as a floppy disk, or a CD ROM, or a digital video disk will contain, inter alia, the program information for controlling the computer to enable the computer to perform the testing and development functions in accordance with the computer system described herein. Finally, it should be noted that the various steps of the present invention are performed in hardware. Accordingly, each step of the present invention typically generates an electrical signal which represents a result of a specific step performed by each of the above elements in FIGS. 1 and 2. Accordingly, the above discussion represents the electrical signals</p> |
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| | <p>which are generated and used in the various procedures of the present invention.</p> <p>Cited reference (Column 21, L66 – 67)</p> <p>(6) It helps sharpen the focus on the collection of data relating to the inputs.</p> <p>Cited reference (Column 25, L39 – 46)</p> <p>FIG. 20 is a flow diagram for the cost approach calculating deterministically the price or the residual value which can represent intangibles, such as intellectual properties, such as an idea or a proposal for a research project, or tangibles, such as land exemplifying a deterministic method for constructing the supply curve in the supply and demand model.</p> <p>Cited reference (Column 29, L13 – 61)</p> <p>The non-monetary return can be inferred from the monetary return when the returns are expressed as the % rate of return. The \$ monetary return can be expressed in terms of the % monetary return by the definition:</p> <p>\$ Monetary Return = Initial Investment times Growth Factor where the Growth Factor is defined as: $\text{Growth Factor} = 1 + \% \text{ Total Monetary Return for the entire holding period}$. Expressed in an annual basis, the Growth Factor becomes $\text{Growth Factor} = (1 + \% \text{ Average Annual Monetary Return})^{\text{sup.} T}$ where T is the holding period in number of years.</p> <p>The % non-monetary average annual return corresponds to the difference between the % total average annual return and the % monetary average annual return. The % total return is determined from the simple observation that when there is no non-monetary return, the % total return is equal to the % monetary return. Since there is no reason for the market to discriminate one investment over another, the % total return should be roughly the same for all types of investments. For example, when the risk, which is a form of negative % non-monetary return, is high, the % monetary return of the investment must also be high enough to compensate for the negative % non-</p> |
| <p>(c) first means for obtaining data related to the value of the business, the business having one or more tangible elements of value and intangible elements of value contributing to the value of the business, and the value of the business including a current operation category of value, a real option category of value and a market sentiment category of value;</p> | |

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| | <p>monetary return, representing the risk, in order to satisfy the constant % total return of the market. Also, work which provides great personal satisfaction, which is a common form of positive % non-monetary return, is often that with low % monetary returns. It is by this ability to account for the intangible or non-monetary factors that value is quantified in the deterministic solution to value.</p> |
| <p>(d) second means for calculating, for each one of the tangible elements of value and intangible elements of value, a tangible measure characterizing the impact of the element of value, second means including means for calculating performance indicators and combining variables, performance indicators and combinations of variables and indicators to calculate the measure,</p> | <p>Cited reference (Column 29, L13 – 61)</p> <p>The non-monetary return can be inferred from the monetary return when the returns are expressed as the % rate of return. The \$ monetary return can be expressed in terms of the % monetary return by the definition:</p> <p>\$ Monetary Return=Initial Investment times Growth Factor where the Growth Factor is defined as: Growth Factor=1+% Total Monetary Return for the entire holding period. Expressed in an annual basis, the Growth Factor becomes Growth Factor=(1+% Average Annual Monetary Return)^{supT} where T is the holding period in number of years.</p> <p>The % non-monetary average annual return corresponds to the difference between the % total average annual return and the % monetary average annual return. The % total return is determined from the simple observation that when there is no non-monetary return, the % total return is equal to the % monetary return. Since there is no reason for the market to discriminate one investment over another, the % total return should be roughly the same for all types of investments. For example, when the risk, which is a form of negative % non-monetary return, is high, the % monetary return of the investment must also be high enough to compensate for the negative % non-monetary return, representing the risk, in order to satisfy the constant % total return of the market. Also, work which provides great personal satisfaction, which is a common form of positive % non-monetary return, is often that with low % monetary returns. It is by this ability to account for the intangible or non-monetary factors that</p> |

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| | value is quantified in the deterministic solution to value. |
| (e) third means for calculating the value of the current operation, real option and market sentiment categories of the value of the business, | Examiner states "present value" which is not correct (note: real options and option value are not mentioned anywhere in Ching) |
| (f) fourth means for using the tangible measures to determine, for each one of the elements of value, a percentage of the current operation category contributed by the element of value, a percentage of the real option category contributed by the element of value and a percentage of the market sentiment category contributed by the element of value, | No references cited |
| (g) fifth means for calculating a value for each of the elements of value based on the current operation, real option and market sentiment categories of value of the business and the percentages of the current operation, real option and market sentiment contributed by the elements of value; | The cited references describe interest rates and price determination for single commodities – see prior analysis of claims 107 and 108. |
| (h) sixth means for quantifying risks facing the business, | The cited reference describes interest rates – see prior analysis of claim 107 |
| (i) seventh means for relating said risks to the tangible elements of value and intangible elements of value, | No references cited |
| (j) eighth means for quantifying the business impact of said risks using the previously identified relationship between the elements of value and the categories of business value, and | <p>Cited reference (C13, L21 to C18, L50) Discusses price determination – see prior analysis of claims 107 and 108 Cited reference (Column 20, L3 – 5) The rate of non-monetary return can be estimated from the difference between the rate of total return and the rate of monetary return. Thus, value is quantified in the deterministic solution to price Cited reference (Column 29, L9 – 61) FIGS. 6, 7, and 8 show that there are infinite number of buyers involved in the infinite spreadsheet, which, thus, extends to infinity in time. As shown in the figures, each of the buyers occupies a finite duration on the infinite spreadsheet, during the ownership of the entity to be valued. The non-monetary return can be inferred from the monetary return when the returns are expressed as the % rate of return. The \$ monetary return can be expressed in terms of the % monetary return by the definition:</p> <p>\$ Monetary Return = Initial Investment times Growth Factor where the Growth Factor is</p> |

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| | <p>defined as: $\text{Growth Factor} = 1 + \% \text{ Total Monetary Return for the entire holding period}$. Expressed in an annual basis, the Growth Factor becomes $\text{Growth Factor} = (1 + \% \text{ Average Annual Monetary Return})^{\text{sup.T}}$ where T is the holding period in number of years.</p> <p>The % non-monetary average annual return corresponds to the difference between the % total average annual return and the % monetary average annual return. The % total return is determined from the simple observation that when there is no non-monetary return, the % total return is equal to the % monetary return. Since there is no reason for the market to discriminate one investment over another, the % total return should be roughly the same for all types of investments. For example, when the risk, which is a form of negative % non-monetary return, is high, the % monetary return of the investment must also be high enough to compensate for the negative % non-monetary return, representing the risk, in order to satisfy the constant % total return of the market. Also, work which provides great personal satisfaction, which is a common form of positive % non-monetary return, is often that with low % monetary returns. It is by this ability to account for the intangible or non-monetary factors that value is quantified in the deterministic solution to value.</p> |
| (k) ninth means for displaying the values and quantified risk impacts by element. | Numerous references cited to show that the results of the infinite spreadsheet analysis can be viewed |
| <p>Cited references fail to describe virtually every aspect of claim 92</p> <p>Conclusion: The cited references cannot be combined or modified to describe claim 92</p> | |

Another way in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for claim 92 is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Donner. It is well established that when determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596,

1600 (Fed. Cir. 1988)). The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections to claim 92 in the 15 June 2004 office action can be traversed.

One of the ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for claims 93 through 95 is that it does not include references that can be combined or modified to describe a single claim.

93. (previously added) A data processing system as claimed in claim 92, where the risks quantified by the sixth means are generic risks, contingent liabilities and combinations thereof.

94. (previously added) A data processing system as claimed in claim 92, wherein said seventh means further comprises:

(a) identifying the one or more tangible indicators included in the measures associated with each element of value that are affected by each risk.

95. (previously added) A data processing system as claimed in claim 92, wherein said eighth means further comprises:

(a) quantifying the change in the measure caused by the change in the one or more tangible indicators included in each element of value measure, and

(b) using the established relationships between element measures and the categories of value to quantify the business impact by element of value.

Cited reference (C4, L66 to C5, L40)

Describes commodity valuation, see analysis of claim 107

Cited reference (C9, L66 to C11, L65)

In the late 1980s and the early 1990s, the monetary authorities in the United States of America are faced with a banking crisis caused by massive loan defaults. According to the government, the crisis was unpredictable and thus non-preventable. If the government is right, future economic disasters will also be unavoidable. The deterministic solution to price predicted the real estate slump of the 1980s and should be able to predict and prevent future economic and financial disasters. In the following, a detailed account of the real estate market of the 1980s will be provided, and the method of prevention will be described.

As the inflation of the 1970s subsided and the expectation of rent and housing prices increases remained high in the early 1980s, the real estate market changed from under-priced to over-priced. The problem with the market price is that it may not respond correctly to economic changes. A market price comparison appraisal gives the market price before the price has fully responded to the economic changes. The determination of price and, in general, decision making should be based on future financial expectations not past market data.

The market comparison approach by overvaluing real estate prices is one of the major causes of the S&L (Savings and Loan) crisis. However, the current mortgage default crisis brought about by the over-valuation represents but a symptom of a much more deeply rooted economic problem which was exposed only when the S&Ls were deregulated in the early 1980s.

The fundamental cause of the S&L crisis involves the banking deregulation policies which permit S&Ls to use deposits, which S&Ls can get from depositors at very low interest rates (around 4 to 8%), to invest in high-risk business ventures with high-return rates (40 to 100%). Since the deposits are insured by the U.S. government, S&Ls can get large amounts of funds at the relatively low interest rates. The government has upset the market equilibrium by insuring the deposits at insurance rates too low to justify the risk under the free market conditions created by irrational market participants.

The situation is aggravated in many regions of the country by economic downturns which cause the market comparison approach to overvalue the real estate market. In this regard, it is only fair to add that had the economy been stable or improved, S&Ls might become the heroes of the business community, instead of the villains as they are now being portrayed.

In addition, the unethical conduct and practices of the S&L managers contributed significantly to the severity of the S&L crisis under the absence of a correct method of valuation. The deregulation and, more importantly, the government's guarantee of the deposits provide the managers the legalized right and opportunity to risk depositors' money. When a risk-taking S&L gets caught in a bad economic situation, it may turn to even more risky or high-return, not excluding unethical, ventures to recapture its losses, especially when its losses have reached such a point that the S&L feels that it has little to lose and everything to gain financially by taking the risks.

Furthermore, if the deregulation-induced fraudulent practices by S&L officials occur in the later stages of a S&L failure, they should be understood to be caused by rather than the cause of the S&L failure, particularly if considered from the point of view that the frauds are the result of business owners' trying to save themselves from their desperate predicaments. Over-emphasizing fraud as the main cause of the S&L crisis is distracting attention from the basic cause, which is a lack of the correct knowledge about the market. It should be emphasized here that, as a general principle, real social progresses can only be made through advancements in knowledge.

If the stability of the U.S. banking system is too important to be left in the hands of the "unstable" free market, the only alternative would be to predict the insurance rates of the free market. The insurance rate should be proportional to the risk which is reflected in the rate of return on investment. Risk is a negative % non-monetary return which must be made up by the % monetary return in order to satisfy the constant % total return (roughly 10% for USA) of the economy. To determine the rate of return on investment, the calculation, as in the case of price determination, must involve the consideration, in general, of a future extended to infinity. The deterministic method is needed to determine the rate of investment return by inputting the selling price to determine the return.

In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default.

An investment opportunity or a loophole is created by the government when the insurance rate is not proportional to the rate of return, for both quantities reflect the risk of the investment. The loophole cannot be eliminated without a method for the determination of the rate of return. From the California rent control court cases, which tries to determine the

justified rate of return for landlords as required by the California State Constitution, it is realized that no method can deterministically calculate the rates of return for real estate investments. A market survey of the expected rate of return using actual sales data, where prices are known, can be done with the valuation system based on the deterministic method by inputting the price to determine the return.

To summarize, the valuation system based on the deterministic solution to price establishes in a semi-infinite time space a complete mathematical relationship among all the market factors, including, in particular, the price and the rate of investment return. Thus, it can translate changes in the values of the inputs of the market variables immediately into changes in the price. In relation to solving the S&L crisis, the deterministic solution to price can

(1) translate (for market participants) market changes, such as changes in tax laws, inflation and interest rates, immediately into price changes,

(2) determine the expected rates of investment return, which reflect the risks and, thus, to which the insurance rates should be proportional, and

(3) keep the loan amount below the economic value, which can be derived by the deterministic method using economically reasonable inputs.

The traditional methods of appraisal, which have contributed to the S&L crisis, were made into official regulation of the government in the late 1980s. The formal recognition of the proven incorrect methods of appraisal indicates that the society is still ignorant of the existence of this deterministic solution to price determination and that this invention is completely novel.

What's missing:

93. (previously added) A data processing system as claimed in claim 92, where the risks quantified by the sixth means are generic risks, contingent liabilities and combinations thereof.

94. (previously added) A data processing system as claimed in claim 92, wherein said seventh means further comprises:

(a) identifying the one or more tangible indicators included in the measures associated with each element of value that are affected by each risk.

95. (previously added) A data processing system as claimed in claim 92, wherein said eighth means further comprises:

(a) quantifying the change in the measure caused by the change in the one or more tangible indicators included in each element of value measure, and

(b) using the established relationships between element measures and the categories of value to quantify the business impact by element of value.

Conclusion: The cited references cannot be combined or modified to describe claims 93, 94 or 95

The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections to claims 93 through 95 in the 15 June 2004 office action can be traversed.

The 15 June 2004 office action fails to establish a prima facie case of obviousness for claim 96 and 97 because it does not include references that can be combined or modified

to describe either claim. As noted previously, the cited references fail to describe a single aspect of claim 92. Given the foregoing, the fact that Ching apparently has the ability to produce a different type of report is irrelevant. The Examiner acknowledges that Ching fails to disclose a means for identifying the optimal risk transfer purchase for the business as described in claim 97 and offers an unsupported opinion that this step is well known and that it would have been obvious to include this step. The failure to cite any references is another clear failure to establish a prima facie case for obviousness. The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections to claim 96 and 97 in the 15 June 2004 office action can be traversed.

The 15 June 2004 office action uses the same rationale detailed above for claims 92 – 97 to reject to claims 98 – 106 and it fails to establish a prima facie case for obviousness for the same reasons cited previously as well as at least one new one. First, it does not include references that can be combined or modified to describe a single claim. Second, it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Donner. When determining obviousness it is well known that “a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding” (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). Third, claims 98 – 106 detail different subject matter than claims 92 – 97 – as a result, the same rationale cannot be used. The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections to claim 98 - 106 in the 15 June 2004 office action can be traversed.

In the 15 June 2004 office action, claims 107 - 121 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of Ching, Donner and the Examiners unsupported opinions regarding xml data integration. The Applicant traverses all § 103 rejections for claims 107 - 121 by noting that the 15 June 2004 office action fails to establish the prima facie case of obviousness required to sustain § 103 rejections. A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP § 2143.01 provides:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

The Applicant will detail two distinct ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for claim 107 while noting that there are several other ways in which the § 103 rejections can be traversed. One of the ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness is that the Examiner has not provided references that can be combined or modified to describe the claim – even if the unsupported opinion regarding xml data integration is accepted (which it isn't). As shown below, the cited portions of Ching fail to describe any aspect of claim 107.

Original claim:

107. (previously added) A computer readable medium having sequences of instructions stored therein, which when executed cause the processor in a computer to perform a risk method, comprising:

integrating organization related data using a common schema with xml metadata,
quantifying organization risk by element of value using at least a portion of the data,
and
displaying the quantified risks using a paper document or electronic display.

Background context:

Price is still an unsolved problem. It is a problem that has puzzled experts and laymen alike for over five thousand years, or for as long as history can recall. In spite of claims of breakthroughs by past thinkers and modern social scientists, all the current solutions to the problem of price determination cannot produce any deterministic, or non-arbitrary, price in practice. This invention is not just the first correct solution to price determination, but possibly the only usable deterministic method for price determination. In practice, the solution to price determination in this invention involves a deterministic infinite spreadsheet and a quantitative supply and demand model....***The infinite spreadsheet is for determining the price of a single commodity and is used to derive the quantitative supply and demand model, which determines the price of multiple commodities which have uniform functionality and, because of competition, necessarily one uniform price.***

Cited reference (Column 4, Line 66 through Column 5, Line 40) :

In this invention, the problem of price is derived from the fundamental problem of value. Since decisions are made based on value judgment, this invention could provide the basis for rational decision making. As a solution to value, it could also be the foundation of social science. Value is defined in this invention as the sum total of all the expected future benefits and losses. Value is the total return, which is the sum of the monetary and the non-monetary returns. The total rate of return can be expected to be roughly constant because the market treats all investments equally. Thus, as a measure of such seemingly non-quantifiable entities as risk, happiness, pride of ownership, etc., non-monetary rate, represented by the difference between the total and the monetary rates of return, can be quantified in this solution to value.

What's missing: Integration of data, quantifying risk, displaying risks

Conclusion: The cited reference cannot be combined or modified to describe any part of claim 107.

Another way in which the 15 June 2004 office action fails to establish a prima facie case of obviousness is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching with xml data integration. When determining obviousness it is well established that “a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding” (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). The Examiner has also failed to provide any references supporting his opinion regarding xml data integration. The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejection for claim 107 in the 15 June 2004 office action can be traversed.

The 15 June 2004 office action also fails to establish a prima facie case of obviousness for claim 108. One of the ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness is that the Examiner has not provided references that can be combined or modified to describe the claim. As shown below, the cited portions of Ching fail to describe any aspect of claim 108.

Original claim:

108. (previously added) The computer readable medium of claim 107 where the method further comprises:

- calculating the amount of capital available for risk reduction purchases,
- identifying the optimal mix of risk reduction products and risk reduction activities given the quantified risks and available capital, and
- displaying the optimal mix using a paper document or electronic display.
- displaying the quantified risks using a paper document or electronic display.

Background context:

Price is still an unsolved problem. It is a problem that has puzzled experts and laymen alike for over five thousand years, or for as long as history can recall. In spite of claims of breakthroughs by past thinkers and modern social scientists, all the current solutions to the problem of price determination cannot produce any deterministic, or non-arbitrary, price in practice. ***This invention is not just the first correct solution to price determination, but possibly the only usable deterministic method for price determination. In practice, the solution to price determination in this invention involves a deterministic infinite spreadsheet and a quantitative supply and demand model....The infinite spreadsheet is for determining the price of a single commodity and is used to derive the quantitative supply and demand model, which determines the price of multiple commodities which have uniform functionality and, because of competition, necessarily one uniform price.***

Cited reference (Column 11, Lines 15 – 30):

In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much

higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default.

Cited reference (Column 13, Line 20 to Column 18, Line 50):

To summarize the background information for this invention, the following listing of valuation concepts have been categorized into seven groups, the first six of which relate to the current methods, and the last of which describes this invention. The defects of the first six groups are stated immediately under the group title, which is represented by a most popular representative and a general description for the group. ***No detailed description of the items are given because the listing is intended to be a way to summarily refuting the uncountable number of methods claiming to be solutions or partial solutions to price determination.*** The list is by no means exhaustive, but the most popular current valuation methods should fall within one of the first six groups. (List omitted for space reasons)

The Financial Institutions Reform, Recovery and Enforcement Act of 1989 requires real estate appraisers to pass examinations on the proper methods of valuation. It should be a matter of great urgency that a correct solution to valuation be found to replace the current valuation methods, which, as recognized by knowledgeable real estate appraisers, are obviously incorrect and, in fact, one of the major causes of the Savings and Loan crisis, for which the law of 1989 was passed. Here is a prime example that a law of man is in conflict with a law of nature. Generally, pain and suffering are the means that nature let people or animals know that laws of nature have been violated. The preoccupation of religions with suffering is an indication that the laws of nature in social science are not yet known to us in the twentieth century.

Furthermore, the National Competitiveness Technology Transfer Act encourages scientists to look into the commercial values of research results. However, determining the value of a research project is even more important before it is carried out than after it has been done. The deterministic method could also lead to a rational method for determining research priorities, which, being a part of the big picture of decision making, should become a necessary knowledge for all policy makers. Risks and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.

What's missing: The cited references describe interest rates and price determination for commodities, they do not address in any way calculating the amount of available capital, identifying the optimal mix of risk reduction purchases and/or identifying the optimal mix of risk reduction activities, etc..

Conclusion: The cited reference cannot be combined or modified to describe any part of claim 108

The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections for claim 108 in the 15 June 2004 office action can be traversed.

The 15 June 2004 office action also fails to establish a prima facie case of obviousness for claim 109. One of the ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness is that the Examiner has not provided references that can be combined or modified to describe the claim. As shown below, the cited portions of Ching fail to describe any aspect of claim 109.

Original claim:

109. (previously added) The computer readable medium of claim 108 where the method further comprises:

implementing the optimal mix of risk reduction products and risk reduction activities in an automated fashion.

Cited reference (Column 11, Lines 15 – 30):

In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default.

Cited reference (Column 13, Line 20 to Column 18, Line 50):

To summarize the background information for this invention, the following listing of valuation concepts have been categorized into seven groups, the first six of which relate to the current methods, and the last of which describes this invention. The defects of the first six groups are stated immediately under the group title, which is represented by a most popular representative and a general description for the group. ***No detailed description of the items are given because the listing is intended to be a way to summarily refuting the uncountable number of methods claiming to be solutions or partial solutions to price determination.*** The list is by no means exhaustive, but the most popular current valuation methods should fall within one of the first six groups. (List omitted for space reasons)

The Financial Institutions Reform, Recovery and Enforcement Act of 1989 requires real estate appraisers to pass examinations on the proper methods of valuation. It should be a matter of great urgency that a correct solution to valuation be found to replace the current valuation methods, which, as recognized by knowledgeable real estate appraisers, are obviously incorrect and, in fact, one of the major causes of the Savings and Loan crisis, for which the law of 1989 was passed. Here is a prime example that a law of man is in conflict with a law of nature. Generally, pain and suffering are the means that nature let people or animals know that laws of nature have been violated. The preoccupation of religions with suffering is an indication that the laws of nature in social science are not yet known to us in the twentieth century.

Furthermore, the National Competitiveness Technology Transfer Act encourages scientists to look into the commercial values of research results. However, determining the value of a research project is even more important before it is carried out than after it has been done. The deterministic method could also lead to a rational method for determining research priorities, which, being a part of the big picture of decision making, should become a necessary knowledge for all policy makers. Risks and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in

the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.

Cited reference (Column 3, Lines 3 and 4)

A reference for permanent software can be found in a patent of this author entitled "Completely Automated And Self-generating Software System" U.S. Pat. No. 5,485,601.

What's missing: The cited references describe interest rates and price determination for commodities and permanent software, they do not address in any way implementing the optimal mix of risk reduction purchases and risk reduction activities.

Conclusion: The cited reference cannot be combined or modified to describe any part of claim 109

The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections for claim 109 in the 15 June 2004 office action can be traversed.

The 15 June 2004 office action also fails to establish a prima facie case of obviousness for claims 110 - 121. One of the ways in which the 15 June 2004 office action fails to establish a prima facie case of obviousness is that the Examiner has not provided references that can be combined or modified to describe the claim. As shown below, the cited portions of Ching fail to describe any aspect of claims 110 - 121.

Original claims:

110. (new) The computer readable medium of claim 107 where organization related data is obtained from the group consisting of advanced financial systems, basic financial systems, web site management systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems, the Internet, external databases, user input and combinations thereof.

111. (new) The computer readable medium of claim 107 wherein the organization comprises an enterprise, a multi-enterprise organization or a value chain.

112. (new) The computer readable medium of claim 111 wherein an enterprise comprises a single product, a group of products, a division or a company.

113. (new) The computer readable medium of claim 107 where the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

114. (new) The computer readable medium of claim 107 where the risks are from the

group consisting of fire risks, earthquake risks, flood risks, weather risks, contingent liabilities and combinations thereof.

115. (new) The computer readable medium of claim 107 wherein the risks are quantified under scenarios from the group consisting of normal, extreme and combinations thereof.

116. (new) The computer readable medium of claim 107 where quantifying risks by element of value further comprises:
identifying tangible measures for each element of value that incorporate one or more tangible indicators of element impact,
quantifying the relationship between elements of value and the categories of value using said tangible measures,
quantifying organization risks,
identifying the one or more tangible indicators included in the measures associated with each element of value that are affected by each risk,
quantifying the change in the measure caused by the risk induced change in the one or more tangible indicators included in each element of value measure, and
using the established relationships between element measures and the categories of value to quantify the business impact by element of value.

117. (new) The computer readable medium of claim 107 wherein the quantified risks by element of value are further identified by category of value where the categories of value are current operation, real options and market sentiment.

118. (new) The computer readable medium of claim 108 where the risk transfer products are insurance or derivatives.

119. (new) The computer readable medium of claim 108 where the optimal mix is determined using a multi-criteria optimization for a combined normal and extreme scenario.

120. (new) The computer readable medium of claim 109 where implementing the optimal mix of risk reduction products and risk reduction activities further comprises:
completing the purchase of risk transfer products in an automated fashion, and
identifying changes in operating limits by organization system, and
communicating the changes in operating limits to organization systems.

121. (new) The computer readable medium of claim 120 where organization systems are selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems and purchasing systems and combinations thereof.

Cited reference (Column 2, Line 57 through Column 3, Line 4) :

Reality is conceptually infinite in time and space. Examples of entities, which involve infinite time, are knowledge, materials, real estates, decisions, of which price is an important representative, corporations, everything that affects corporations or businesses, DNA of the living organism, and everything that affects living organisms, particularly

human beings. It appears that upon close observation, most things are infinite in nature, and, thus, they are within the domain of post-science. Post-scientific life science even tries to design permanent information systems, such as DNA and non-obsolescent software systems, which in turn can create things which will last forever. A reference for permanent software can be found in a patent of this author entitled "Completely Automated And Self-generating Software System" U.S. Pat. No. 5,485,601.

Cited reference (Column 4, Line 43 through Column 5, Line 38) :

The infinite spreadsheet is simply a manual or computerized spreadsheet which is extended to infinity in time. It is formed by piecing together an infinite number of finite spreadsheets, which are not overlapping due to their distinct time periods. It attempts to relate the price to the expected cash flows, the expected average rates of return, and all the resale prices in a numerically consistent fashion. It is merely an accounting of the expected future cash flows with the intention of determining the price based on the expected rate of return. Thus, the problem of price determination is the problem of filling in the values of the price and all the resale prices in the infinite spreadsheet in such a way that they are numerically consistent with the given expected cash flows and the given expected rate of returns. The quantitative supply and demand in this invention is based on the price determined by the infinite spreadsheet, which calculates just the price of one commodity. The quantitative supply and demand model sums up the calculations for each and every buyer or manufacturer or group of buyers or manufacturers of commodities with uniform functionality or utility to form respectively the demand and the supply. It then derives deterministically from the intersection of the supply and the demand curves the uniform price for all the commodities.

In this invention, the problem of price is derived from the fundamental problem of value. Since decisions are made based on value judgment, this invention could provide the basis for rational decision making. As a solution to value, it could also be the foundation of social science. Value is defined in this invention as the sum total of all the expected future benefits and losses. Value is the total return, which is the sum of the monetary and the non-monetary returns. The total rate of return can be expected to be roughly constant because the market treats all investments equally. Thus, as a measure of such seemingly non-quantifiable entities as risk, happiness, pride of ownership, etc., non-monetary rate, represented by the difference between the total and the monetary rates of return, can be quantified in this solution to value.

This invention deals primarily with the monetary rate of return, which can be easily calculated from the cash amount of the monetary return. Briefly, the monetary return is derived from the realistic accounting of the expected cash flows and any expected cash from resale of the entity being priced. The cash flows depend on all the factors affecting the price, such as income, expenses, vacancy, rent increases, taxes, transaction costs, finance, etc. This formulation establishes a deterministic relationship between the price and all the factors affecting the price in an expected time space extending from now to the infinite future.

Defining the problem of price determination as the problem of filling up the infinite spreadsheet has the advantage of easily identifying the unknown variables. In the calculation for the monetary return, the unknown variables to be determined are the price and the resale price, which is the future price after a given investment period. To be logically consistent, the same procedure for calculating the price should be applied to the resale price, the resale price of the resale price, and, in fact, all the future resale prices to infinity. Thus, the problem of price determination as described by the infinite spreadsheet has been reduced down to the problem of determining all the resale prices, from which the

present price can be readily calculated.

Cited reference (C9, L66 to C11, L65)

In the late 1980s and the early 1990s, the monetary authorities in the United States of America are faced with a banking crisis caused by massive loan defaults. According to the government, the crisis was unpredictable and thus non-preventable. If the government is right, future economic disasters will also be unavoidable. The deterministic solution to price predicted the real estate slump of the 1980s and should be able to predict and prevent future economic and financial disasters. In the following, a detailed account of the real estate market of the 1980s will be provided, and the method of prevention will be described.

As the inflation of the 1970s subsided and the expectation of rent and housing prices increases remained high in the early 1980s, the real estate market changed from under-priced to over-priced. The problem with the market price is that it may not respond correctly to economic changes. A market price comparison appraisal gives the market price before the price has fully responded to the economic changes. The determination of price and, in general, decision making should be based on future financial expectations not past market data.

The market comparison approach by overvaluing real estate prices is one of the major causes of the S&L (Savings and Loan) crisis. However, the current mortgage default crisis brought about by the over-valuation represents but a symptom of a much more deeply rooted economic problem which was exposed only when the S&Ls were deregulated in the early 1980s.

The fundamental cause of the S&L crisis involves the banking deregulation policies which permit S&Ls to use deposits, which S&Ls can get from depositors at very low interest rates (around 4 to 8%), to invest in high-risk business ventures with high-return rates (40 to 100%). Since the deposits are insured by the U.S. government, S&Ls can get large amounts of funds at the relatively low interest rates. The government has upset the market equilibrium by insuring the deposits at insurance rates too low to justify the risk under the free market conditions created by irrational market participants.

The situation is aggravated in many regions of the country by economic downturns which cause the market comparison approach to overvalue the real estate market. In this regard, it is only fair to add that had the economy been stable or improved, S&Ls might become the heroes of the business community, instead of the villains as they are now being portrayed.

In addition, the unethical conduct and practices of the S&L managers contributed significantly to the severity of the S&L crisis under the absence of a correct method of valuation. The deregulation and, more importantly, the government's guarantee of the deposits provide the managers the legalized right and opportunity to risk depositors' money. When a risk-taking S&L gets caught in a bad economic situation, it may turn to even more risky or high-return, not excluding unethical, ventures to recapture its losses, especially when its losses have reached such a point that the S&L feels that it has little to lose and everything to gain financially by taking the risks.

Furthermore, if the deregulation-induced fraudulent practices by S&L officials occur in the later stages of a S&L failure, they should be understood to be caused by rather than the cause of the S&L failure, particularly if considered from the point of view that the frauds are the result of business owners' trying to save themselves from their desperate predicaments. Over-emphasizing fraud as the main cause of the S&L crisis is distracting attention from the basic cause, which is a lack of the correct knowledge about the market.

It should be emphasized here that, as a general principle, real social progresses can only be made through advancements in knowledge.

If the stability of the U.S. banking system is too important to be left in the hands of the "unstable" free market, the only alternative would be to predict the insurance rates of the free market. The insurance rate should be proportional to the risk which is reflected in the rate of return on investment. Risk is a negative % non-monetary return which must be made up by the % monetary return in order to satisfy the constant % total return (roughly 10% for USA) of the economy. To determine the rate of return on investment, the calculation, as in the case of price determination, must involve the consideration, in general, of a future extended to infinity. The deterministic method is needed to determine the rate of investment return by inputting the selling price to determine the return.

In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default.

An investment opportunity or a loophole is created by the government when the insurance rate is not proportional to the rate of return, for both quantities reflect the risk of the investment. The loophole cannot be eliminated without a method for the determination of the rate of return. From the California rent control court cases, which tries to determine the justified rate of return for landlords as required by the California State Constitution, it is realized that no method can deterministically calculate the rates of return for real estate investments. A market survey of the expected rate of return using actual sales data, where prices are known, can be done with the valuation system based on the deterministic method by inputting the price to determine the return.

To summarize, the valuation system based on the deterministic solution to price establishes in a semi-infinite time space a complete mathematical relationship among all the market factors, including, in particular, the price and the rate of investment return. Thus, it can translate changes in the values of the inputs of the market variables immediately into changes in the price. In relation to solving the S&L crisis, the deterministic solution to price can

- (1) translate (for market participants) market changes, such as changes in tax laws, inflation and interest rates, immediately into price changes,
- (2) determine the expected rates of investment return, which reflect the risks and, thus, to which the insurance rates should be proportional, and
- (3) keep the loan amount below the economic value, which can be derived by the deterministic method using economically reasonable inputs.

The traditional methods of appraisal, which have contributed to the S&L crisis, were made into official regulation of the government in the late 1980s. The formal recognition of the proven incorrect methods of appraisal indicates that the society is still ignorant of the existence of this deterministic solution to price determination and that this invention is completely novel.

Cited reference (Column 8, Line 11 - 32)

The deterministic method has been used to value numerous goods and services and to

check against actual investment markets. At first, it might be suspected that the past data and the markets would not yield sufficient information or information accurate enough to produce useful results. It turns out that for many investment markets, especially those requiring a multiple-commodity price model to describe, inputs obtained under budget constraints were insufficient or not stable enough to provide reliable results; it would require a very large amount of resources for collecting, updating and analyzing the data.

However, there is and will be one important exception. This exception is the real estate market. Even with very limited resources, reasonable inputs could be obtained for all the needed variables of the real estate market. Reasonable inputs are here defined as those which will be accepted by both the buyer and the seller, the two opposing parties in a transaction. In fact, the real estate market provided more inputs than is requested by the deterministic method and, thus, would cause serious contradictions in the infinite spreadsheet.

Cited reference (Column 13, Line 22 through Column 18, Line 50)

To summarize the background information for this invention, the following listing of valuation concepts have been categorized into seven groups, the first six of which relate to the current methods, and the last of which describes this invention. The defects of the first six groups are stated immediately under the group title, which is represented by a most popular representative and a general description for the group. ***No detailed description of the items are given because the listing is intended to be a way to summarily refuting the uncountable number of methods claiming to be solutions or partial solutions to price determination.*** The list is by no means exhaustive, but the most popular current valuation methods should fall within one of the first six groups.

(List omitted for space reasons)

The Financial Institutions Reform, Recovery and Enforcement Act of 1989 requires real estate appraisers to pass examinations on the proper methods of valuation. It should be a matter of great urgency that a correct solution to valuation be found to replace the current valuation methods, which, as recognized by knowledgeable real estate appraisers, are obviously incorrect and, in fact, one of the major causes of the Savings and Loan crisis, for which the law of 1989 was passed. Here is a prime example that a law of man is in conflict with a law of nature. Generally, pain and suffering are the means that nature let people or animals know that laws of nature have been violated. The preoccupation of religions with suffering is an indication that the laws of nature in social science are not yet known to us in the twentieth century.

Furthermore, the National Competitiveness Technology Transfer Act encourages scientists to look into the commercial values of research results. However, determining the value of a research project is even more important before it is carried out than after it has been done. The deterministic method could also lead to a rational method for determining research priorities, which, being a part of the big picture of decision making, should become a necessary knowledge for all policy makers. Risks and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.

Cited reference (Column 39, Line 50 through Column 40, Line 30)

FIG. 19 shows an example of market comparable survey using the real estate and the business investment markets and is a very important part of the overall deterministic method of price determination. The survey makes the inputs not only reliable, but also deterministic. For instance, each of the six listings in a Section 192 of FIG. 19, must use

the same, or similar, value for the rate of increase of net income %N, whose definition is given in a Section 191 of FIG. 19.

To be noted in Section 192 of FIG. 19 are the first two records, which correspond to the sale and lease back transaction of FIGS. 15, 16, 17, 18, and 21. In particular, Record #1 is derived directly from FIG. 18, and Record #2, from FIG. 21. In practice, FIG. 19 could provide one of the most useful evidences to convince investors the validity of the price calculated using the deterministic method of price determination.

Furthermore, the real estate market due to its very mature information system usually provides one more than the number of input data which are required by the deterministic valuation system. Market surveys using the deterministic method of price determination have shown that the market price is generally inconsistent with the investment expectations; the irrational market participants, who do not have access to a rational method of valuation, have created an irrational market. Thus, it can also be suspected that the discrepancy between the market price and the calculated price has been the main cause of most economic disasters in the past.

Since the market price is generally incorrect, its availability, in principle, is not always necessary in valuation practices. In particular, the value of intellectual properties, for example, even without a market can be determined by the infinite spreadsheet where the rate of return is inferred theoretically from a comparison with the known rates of return surveyed from the market. Adjustments can be made by extrapolation and only approximate value is needed to make the rate of return a reasonable input.

From the hypothetical appraisal, it can be seen that the problem of valuation in real estate finally boils down mainly to the collection of input data for Item #2, the income, and Item #3, the expenditure. Valuation is further simplified by the flexible requirement that the income and the expenditure need only to be reasonable estimations. The accuracy will improve naturally with experience. However, the decisions will not be affected significantly by the improved accuracy, for social science, unlike physical science, does not seem to need to be exact; it only needs to be quantitative and reasonably accurate.

What's missing: See original claims

Conclusion: The cited reference cannot be combined or modified to describe claims 110 through 121.

Another way in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for claims 110 through 121 is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Donner. When determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). The Applicant also notes that the Examiner incorrectly attempts to equate intellectual properties with intangible assets in this response. Finally, the Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections for claims 110 through 121 in the 15 June 2004 office action can be traversed.

In the 15 June 2004 office action, claims 122 – 132 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Ching in view of Donner. The Applicant traverses all § 103 rejections for claims 122 - 132 by noting that the 15 June 2004 office action fails to establish the prima facie case of obviousness required to sustain § 103 rejections. A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP § 2143.01 provides:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

The Applicant will detail at least one way in which the 15 June 2004 office action fails to establish a prima facie case of obviousness for each of the claims 122 – 132 while noting that there are several other ways in which all § 103 rejections can be traversed. The Applicant also notes that the Examiner appears to be incorrectly attempting to equate intellectual properties of Ching (which are imprecisely defined but generally refer to a concept similar to goodwill), with intellectual properties of Donner and the intangible elements of value of the instant application.

Original claims

122. (new) A computer system that develops tangible measures of element of value impact on aspects of organization financial performance using aggregated organization related data and uses the measures to create tools for financial performance management.

123. (new) The system of claim 122 wherein the organization comprises a single product, a group of products, a division or a company, a multi-enterprise organization or a value chain.

124. (new) The system of claim 122 where the aspects of financial performance are selected from the group consisting of revenue, expense, capital change, real option value, market value and combinations thereof.

125. (new) The system of claim 122 where the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

126. (new) The system of claim 122 where the tools for financial performance management are selected from the group consisting of a network model that quantifies net element impact on organization value, a network model that quantifies net element impact on organization revenue, a network model that quantifies net element impact on

organization expense, a network model that quantifies net element impact on organization capital change, a model that quantifies net element impact on organization real option value, a network model that quantifies net element impact on organization market sentiment, a simulation model that quantifies the impact of risks on organization value by element of value, a simulation model that quantifies the impact of risks on organization revenue by element of value, a simulation model that quantifies the impact of risks on organization expense by element of value, a simulation model that quantifies the impact of risks on organization capital change by element of value, a simulation model that quantifies the impact of risks on organization real options by element of value a simulation model that quantifies the impact of risks on organization market sentiment value by element of value and combinations thereof.

127. (new) The system of claim 126 where the models support activities from the group consisting of optimization of one or more aspects of organization financial performance, financial simulations, element valuations, risk quantification, management reporting and combinations thereof.

128. (new) The system of claim 126 where the models are developed in an automated fashion.

129. (new) The system of claim 126 where the risks are from the group consisting of fire risks, earthquake risks, flood risks, weather risks, contingent liabilities and combinations thereof.

130. (new) The system of claim 126 where the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

131. (new) The system of claim 122 where the element of value impact on aspects of organization financial performance is the direct impact on an aspect of financial performance net of any impact on other elements of value.

132. (new) The system of claim 122 that further comprises networked computers each with a processor having circuitry to execute instructions where each processor has a storage device that is available to it and each storage device has sequences of instructions stored therein which when executed cause the processors to complete the required processing.

Cited reference (Column 21, Line 66 - 67)

(6) It helps sharpen the focus on the collection of data relating to the inputs.

Cited reference (Column 25, Line 39 - 46)

FIG. 20 is a flow diagram for the cost approach calculating deterministically the price or the residual value which can represent intangibles, such as intellectual properties, such as an idea or a proposal for a research project, or tangibles, such as land exemplifying a deterministic method for constructing the supply curve in the supply and demand model.

Cited reference (Column 29, Line 13 - 61)

The non-monetary return can be inferred from the monetary return when the returns are expressed as the % rate of return. The \$ monetary return can be expressed in terms of the % monetary return by the definition:

\$ Monetary Return = Initial Investment times Growth Factor where the Growth Factor is defined as: $\text{Growth Factor} = 1 + \% \text{ Total Monetary Return for the entire holding period.}$

Expressed in an annual basis, the Growth Factor becomes $\text{Growth Factor} = (1 + \% \text{ Average Annual Monetary Return})^{\text{sup.} T}$ where T is the holding period in number of years.

The % non-monetary average annual return corresponds to the difference between the % total average annual return and the % monetary average annual return. The % total return is determined from the simple observation that when there is no non-monetary return, the % total return is equal to the % monetary return. Since there is no reason for the market to discriminate one investment over another, the % total return should be roughly the same for all types of investments. For example, when the risk, which is a form of negative % non-monetary return, is high, the % monetary return of the investment must also be high enough to compensate for the negative % non-monetary return, representing the risk, in order to satisfy the constant % total return of the market. Also, work which provides great personal satisfaction, which is a common form of positive % non-monetary return, is often that with low % monetary returns. It is by this ability to account for the intangible or non-monetary factors that value is quantified in the deterministic solution to value.

Cited reference (Column 13, Line 22 through Column 18, Line 50)

To summarize the background information for this invention, the following listing of valuation concepts have been categorized into seven groups, the first six of which relate to the current methods, and the last of which describes this invention. The defects of the first six groups are stated immediately under the group title, which is represented by a most popular representative and a general description for the group. ***No detailed description of the items are given because the listing is intended to be a way to summarily refuting the uncountable number of methods claiming to be solutions or partial solutions to price determination.*** The list is by no means exhaustive, but the most popular current valuation methods should fall within one of the first six groups.

(List omitted for space reasons)

The Financial Institutions Reform, Recovery and Enforcement Act of 1989 requires real estate appraisers to pass examinations on the proper methods of valuation. It should be a matter of great urgency that a correct solution to valuation be found to replace the current valuation methods, which, as recognized by knowledgeable real estate appraisers, are obviously incorrect and, in fact, one of the major causes of the Savings and Loan crisis, for which the law of 1989 was passed. Here is a prime example that a law of man is in conflict with a law of nature. Generally, pain and suffering are the means that nature let people or animals know that laws of nature have been violated. The preoccupation of religions with suffering is an indication that the laws of nature in social science are not yet known to us in the twentieth century.

Furthermore, the National Competitiveness Technology Transfer Act encourages scientists to look into the commercial values of research results. However, determining the value of a research project is even more important before it is carried out than after it has been done. The deterministic method could also lead to a rational method for determining research priorities, which, being a part of the big picture of decision making, should become a necessary knowledge for all policy makers. Risks and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.

Cited reference (Column 2, Line 57 – Column 3, Line 4)

Reality is conceptually infinite in time and space. Examples of entities, which involve infinite time, are knowledge, materials, real estates, decisions, of which price is an important representative, corporations, everything that affects corporations or businesses,

DNA of the living organism, and everything that affects living organisms, particularly human beings. It appears that upon close observation, most things are infinite in nature, and, thus, they are within the domain of post-science. Post-scientific life science even tries to design permanent information systems, such as DNA and non-obsolescent software systems, which in turn can create things which will last forever. A reference for permanent software can be found in a patent of this author entitled "Completely Automated And Self-generating Software System" U.S. Pat. No. 5,485,601.

Cited reference (Column 4, Line 43 through Column 5, Line 38) :

The infinite spreadsheet is simply a manual or computerized spreadsheet which is extended to infinity in time. It is formed by piecing together an infinite number of finite spreadsheets, which are not overlapping due to their distinct time periods. It attempts to relate the price to the expected cash flows, the expected average rates of return, and all the resale prices in a numerically consistent fashion. It is merely an accounting of the expected future cash flows with the intention of determining the price based on the expected rate of return. Thus, the problem of price determination is the problem of filling in the values of the price and all the resale prices in the infinite spreadsheet in such a way that they are numerically consistent with the given expected cash flows and the given expected rate of returns. The quantitative supply and demand in this invention is based on the price determined by the infinite spreadsheet, which calculates just the price of one commodity. The quantitative supply and demand model sums up the calculations for each and every buyer or manufacturer or group of buyers or manufacturers of commodities with uniform functionality or utility to form respectively the demand and the supply. It then derives deterministically from the intersection of the supply and the demand curves the uniform price for all the commodities.

In this invention, the problem of price is derived from the fundamental problem of value. Since decisions are made based on value judgment, this invention could provide the basis for rational decision making. As a solution to value, it could also be the foundation of social science. Value is defined in this invention as the sum total of all the expected future benefits and losses. Value is the total return, which is the sum of the monetary and the non-monetary returns. The total rate of return can be expected to be roughly constant because the market treats all investments equally. Thus, as a measure of such seemingly non-quantifiable entities as risk, happiness, pride of ownership, etc., non-monetary rate, represented by the difference between the total and the monetary rates of return, can be quantified in this solution to value.

This invention deals primarily with the monetary rate of return, which can be easily calculated from the cash amount of the monetary return. Briefly, the monetary return is derived from the realistic accounting of the expected cash flows and any expected cash from resale of the entity being priced. The cash flows depend on all the factors affecting the price, such as income, expenses, vacancy, rent increases, taxes, transaction costs, finance, etc. This formulation establishes a deterministic relationship between the price and all the factors affecting the price in an expected time space extending from now to the infinite future.

Defining the problem of price determination as the problem of filling up the infinite spreadsheet has the advantage of easily identifying the unknown variables. In the calculation for the monetary return, the unknown variables to be determined are the price and the resale price, which is the future price after a given investment period. To be logically consistent, the same procedure for calculating the price should be applied to the resale price, the resale price of the resale price, and, in fact, all the future resale prices to infinity. Thus, the problem of price determination as described by the infinite spreadsheet

has been reduced down to the problem of determining all the resale prices, from which the present price can be readily calculated.

Cited reference (C9, L66 to C11, L65)

In the late 1980s and the early 1990s, the monetary authorities in the United States of America are faced with a banking crisis caused by massive loan defaults. According to the government, the crisis was unpredictable and thus non-preventable. If the government is right, future economic disasters will also be unavoidable. The deterministic solution to price predicted the real estate slump of the 1980s and should be able to predict and prevent future economic and financial disasters. In the following, a detailed account of the real estate market of the 1980s will be provided, and the method of prevention will be described.

As the inflation of the 1970s subsided and the expectation of rent and housing prices increases remained high in the early 1980s, the real estate market changed from under-priced to over-priced. The problem with the market price is that it may not respond correctly to economic changes. A market price comparison appraisal gives the market price before the price has fully responded to the economic changes. The determination of price and, in general, decision making should be based on future financial expectations not past market data.

The market comparison approach by overvaluing real estate prices is one of the major causes of the S&L (Savings and Loan) crisis. However, the current mortgage default crisis brought about by the over-valuation represents but a symptom of a much more deeply rooted economic problem which was exposed only when the S&Ls were deregulated in the early 1980s.

The fundamental cause of the S&L crisis involves the banking deregulation policies which permit S&Ls to use deposits, which S&Ls can get from depositors at very low interest rates (around 4 to 8%), to invest in high-risk business ventures with high-return rates (40 to 100%). Since the deposits are insured by the U.S. government, S&Ls can get large amounts of funds at the relatively low interest rates. The government has upset the market equilibrium by insuring the deposits at insurance rates too low to justify the risk under the free market conditions created by irrational market participants.

The situation is aggravated in many regions of the country by economic downturns which cause the market comparison approach to overvalue the real estate market. In this regard, it is only fair to add that had the economy been stable or improved, S&Ls might become the heroes of the business community, instead of the villains as they are now being portrayed.

In addition, the unethical conduct and practices of the S&L managers contributed significantly to the severity of the S&L crisis under the absence of a correct method of valuation. The deregulation and, more importantly, the government's guarantee of the deposits provide the managers the legalized right and opportunity to risk depositors' money. When a risk-taking S&L gets caught in a bad economic situation, it may turn to even more risky or high-return, not excluding unethical, ventures to recapture its losses, especially when its losses have reached such a point that the S&L feels that it has little to lose and everything to gain financially by taking the risks.

Furthermore, if the deregulation-induced fraudulent practices by S&L officials occur in the later stages of a S&L failure, they should be understood to be caused by rather than the cause of the S&L failure, particularly if considered from the point of view that the frauds are the result of business owners' trying to save themselves from their desperate predicaments. Over-emphasizing fraud as the main cause of the S&L crisis is distracting

attention from the basic cause, which is a lack of the correct knowledge about the market. It should be emphasized here that, as a general principle, real social progresses can only be made through advancements in knowledge.

If the stability of the U.S. banking system is too important to be left in the hands of the "unstable" free market, the only alternative would be to predict the insurance rates of the free market. The insurance rate should be proportional to the risk which is reflected in the rate of return on investment. Risk is a negative % non-monetary return which must be made up by the % monetary return in order to satisfy the constant % total return (roughly 10% for USA) of the economy. To determine the rate of return on investment, the calculation, as in the case of price determination, must involve the consideration, in general, of a future extended to infinity. The deterministic method is needed to determine the rate of investment return by inputting the selling price to determine the return.

In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default.

An investment opportunity or a loophole is created by the government when the insurance rate is not proportional to the rate of return, for both quantities reflect the risk of the investment. The loophole cannot be eliminated without a method for the determination of the rate of return. From the California rent control court cases, which tries to determine the justified rate of return for landlords as required by the California State Constitution, it is realized that no method can deterministically calculate the rates of return for real estate investments. A market survey of the expected rate of return using actual sales data, where prices are known, can be done with the valuation system based on the deterministic method by inputting the price to determine the return.

To summarize, the valuation system based on the deterministic solution to price establishes in a semi-infinite time space a complete mathematical relationship among all the market factors, including, in particular, the price and the rate of investment return. Thus, it can translate changes in the values of the inputs of the market variables immediately into changes in the price. In relation to solving the S&L crisis, the deterministic solution to price can

- (1) translate (for market participants) market changes, such as changes in tax laws, inflation and interest rates, immediately into price changes,
- (2) determine the expected rates of investment return, which reflect the risks and, thus, to which the insurance rates should be proportional, and
- (3) keep the loan amount below the economic value, which can be derived by the deterministic method using economically reasonable inputs.

The traditional methods of appraisal, which have contributed to the S&L crisis, were made into official regulation of the government in the late 1980s. The formal recognition of the proven incorrect methods of appraisal indicates that the society is still ignorant of the existence of this deterministic solution to price determination and that this invention is completely novel.

Cited reference (Column 8, Line 11 - 32)

The deterministic method has been used to value numerous goods and services and to check against actual investment markets. At first, it might be suspected that the past data and the markets would not yield sufficient information or information accurate enough to produce useful results. It turns out that for many investment markets, especially those requiring a multiple-commodity price model to describe, inputs obtained under budget constraints were insufficient or not stable enough to provide reliable results; it would require a very large amount of resources for collecting, updating and analyzing the data.

However, there is and will be one important exception. This exception is the real estate market. Even with very limited resources, reasonable inputs could be obtained for all the needed variables of the real estate market. Reasonable inputs are here defined as those which will be accepted by both the buyer and the seller, the two opposing parties in a transaction. In fact, the real estate market provided more inputs than is requested by the deterministic method and, thus, would cause serious contradictions in the infinite spreadsheet.

Cited reference (Column 39, Line 50 through Column 40, Line 30)

FIG. 19 shows an example of market comparable survey using the real estate and the business investment markets and is a very important part of the overall deterministic method of price determination. The survey makes the inputs not only reliable, but also deterministic. For instance, each of the six listings in a Section 192 of FIG. 19, must use the same, or similar, value for the rate of increase of net income %N, whose definition is given in a Section 191 of FIG. 19.

To be noted in Section 192 of FIG. 19 are the first two records, which correspond to the sale and lease back transaction of FIGS. 15, 16, 17, 18, and 21. In particular, Record #1 is derived directly from FIG. 18, and Record #2, from FIG. 21. In practice, FIG. 19 could provide one of the most useful evidences to convince investors the validity of the price calculated using the deterministic method of price determination.

Furthermore, the real estate market due to its very mature information system usually provides one more than the number of input data which are required by the deterministic valuation system. Market surveys using the deterministic method of price determination have shown that the market price is generally inconsistent with the investment expectations; the irrational market participants, who do not have access to a rational method of valuation, have created an irrational market. Thus, it can also be suspected that the discrepancy between the market price and the calculated price has been the main cause of most economic disasters in the past.

Since the market price is generally incorrect, its availability, in principle, is not always necessary in valuation practices. In particular, the value of intellectual properties, for example, even without a market can be determined by the infinite spreadsheet where the rate of return is inferred theoretically from a comparison with the known rates of return surveyed from the market. Adjustments can be made by extrapolation and only approximate value is needed to make the rate of return a reasonable input.

From the hypothetical appraisal, it can be seen that the problem of valuation in real estate finally boils down mainly to the collection of input data for Item #2, the income, and Item #3, the expenditure. Valuation is further simplified by the flexible requirement that the income and the expenditure need only to be reasonable estimations. The accuracy will improve naturally with experience. However, the decisions will not be affected significantly by the improved accuracy, for social science, unlike physical science, does not seem to need to be exact; it only needs to be quantitative and reasonably accurate.

What's missing: See original claims

Conclusion: The cited reference cannot be combined or modified to describe claims 122 through 132.

Another way in which the 15 June 2004 office action fails to establish a prima facie case of obviousness is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Donner. When determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). The Applicant also notes that there are still other ways in which all § 103 (a) obviousness rejections of claims 122 through 132 in the 15 June 2004 office action can be traversed including the previously noted fact that Ching teaches away from Donner.

Reservation of Rights

The Applicant hereby explicitly reserves the right to present the canceled and modified claims for re-examination in their original format. The cancellation and modification of the pending claims to put the instant application in a final form for allowance and issue is not to be construed as a surrender of subject matters covered by the original claims before their modification or cancellation.

Summary/Conclusion

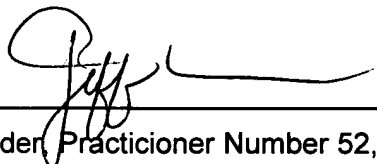
The Applicant respectfully requests consideration of the present application as amended herewith.

Payment Enclosed

The Applicant has enclosed payment for the information disclosure statement attached hereto.

Respectfully submitted,

Dated: 8/9/2004



Jeff S. Eder, Practitioner Number 52,849